

ABSTRACT

A Si etching method etches a Si wafer held on a susceptor placed in a processing vessel by a plasma-assisted etching process. A mixed etching gas prepared by mixing fluorosulfur gas, such as SF_6 gas, or fluorocarbon gas, O_2 gas and fluorosilicon gas, such as SiF_4 gas is supplied into the processing vessel. RF power of 40 MHz or above is applied to the mixed etching gas to generate a plasma. The Si wafer is etched with radicals and ions contained in the plasma.